

REMARKS

Claims 1-2, 4-5, and 9-23 are pending in the present Application. No claims have been amended, added, or canceled; leaving claims 1-2, 4-5, and 9-23 for consideration upon entry of the present Response. Reconsideration and allowance of the claims are respectfully requested in view of the following remarks.

Claim Rejections Under 35 U.S.C. § 102(b)

Claims 1-2, 4-5, and 9-23 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by U.S. Patent No. 5,372,884 to Abe et al. ("Abe"). Applicants respectfully traverse the rejection.

Abe generally discloses an ink jet recording sheet comprising a support and an ink receiving layer provided on at least one side of the support wherein the ink receiving layer contains cation-modified non-spherical colloidal silica. (Abe, Abstract) The support may be a resin-coated paper support called a "base paper", which may contain "water-soluble polymers, antistatic agents and additives." (Id. at Col. 5, ll. 24-29 and Col. 5, l. 67 to Col. 6, l. 2) Abe also discloses antistatic polymers such as

[A]lkali metal salts such as sodium chloride and potassium chloride, alkaline earth metal salts such as calcium chloride and barium chloride, colloidal metal oxides such as colloidal silica and organic antistatic agents such as polystyrene-sulfonates.

(Id. at Col. 6, ll. 6-11)

Abe further discloses

[W]ater-soluble polymers include[ing] starch polymers, polyvinyl alcohol polymers, gelatin polymers, polyacrylamide polymers and cellulose polymers mentioned or exemplified in Japanese Patent Kokai (Laid-Open) No. 1-266537.

(Id. at Col. 6, ll. 2-6)

The Examiner has stated in the Office Action dated January 13, 2006 to "[n]ote the laid open document JP Kokai No. 1-266537 as referred to by the [Abe] reference in col. 6 contains the organic antistatic agent as claimed." (Office Action, page 3) The Examiner also stated to "[n]ote that the structure of the suggested antistatic agent, i.e. organic antistatic agent such as polystyrene-

sulfonates, would anticipate the portion of the claims directed to such agent.” (Id.)

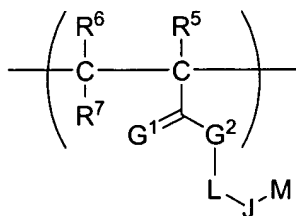
To anticipate a claim, a reference must disclose each and every element of the claim. *Lewmar Marine v. Varient Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987).

It is the Applicants contention that Abe, together with the teachings of JP Kokai No. 1-266537, does not anticipate independent claims 1, 17-19, and 21 as each and every limitation of the claims are not taught or suggested.

First, Abe does disclose an organic antistatic agent polystyrene-sulfonate as an antistatic agent that may be contained in the base paper. However, none of the polymeric anti-static salts of the present claims is polystyrene based. Rather, the polymeric anti-static salts of independent claims 1 and 17-18 are polymers that comprise a polymeric anionic component and a cationic component, wherein the polymeric anionic component is derived from polyacrylic acid, poly(alkyl)acrylic acid, poly(maleic acid), poly(vinyl sulfonic acid), polyacrylate, or poly(alkyl)acrylate. None of the claimed polymeric anti-static salts are polystyrene based.

Independent claim 19 is a method of making a polymeric anti-static salt by polymerizing ionic monomers that comprise reactive functionality and a salt moiety, wherein the reactive functionality is an epoxy group, an acrylate group, an (alkyl)acrylate group, an allylic group, an acrylamide group, an (alkyl)acrylamide group, a crotyl group or a combination comprising at least one of the foregoing groups; and wherein the salt moiety is a carboxylate salt or a sulfonate salt comprising a phosphonium or ammonium cationic component. Again, none of the polymeric anti-static salts prepared thus are polystyrene based. Furthermore, Abe does not teach how to prepare a polymeric anti-static salt by the claimed method of reacting ionic monomers.

Independent claim 21 is a polymeric anti-static salt, comprising repeating units according to the structure:



wherein R⁵ is H or (C₁–C₆)alkyl; R⁶ is H or (C₁–C₆)alkyl; R⁷ is H or (C₁–C₆)alkyl. Yet again, this polymeric anti-static salt is not polystyrene-based.

Turning now to the cited Japanese reference in Abe, JP Kokai No. 1-266537, which was referenced in the Abe patent for its teaching of water soluble polymers. (Abe, Col. 6, ll. 2-6) Review of a computer translation of JP Kokai No. 1-266537 (corresponding to JP2608096B2, Japanese Unexamined Patent Publication Hei 1-266537) to Noda (“Noda”, attached) reveals that Noda is generally directed to a photography support wherein the paper of the support contains 1) an inorganic antistatic agent, 2) a water soluble polymer, and 3) bis(triazinylamino)stilbene disulfonic acid. (Noda, Claim 1) The inorganic antistatic agent includes alkali and alkaline earth metal chlorides and sulfates. (Id. at Page 6) The water soluble polymers include starch-based polymers and polyvinyl alcohol type polymers. (Id. at Page 7) Specific polyvinyl alcohol type polymers include unmodified and carboxy-modified polyvinyl alcohol. (Id. at Page 8) In addition, anionic and cationic polyacrylamides are disclosed as a paper strengthener. (Id. at Page 13)

None of the polymeric anti-static salts of independent claims 1 or 17-18 is starch-based, unmodified polyvinyl alcohol, carboxyl-modified polyvinyl alcohol, anionic polyacrylamide, or cationic polyacrylamide. As mentioned, the polymeric anti-static salts of the instant claims are polymers that comprise a polymeric anionic component and a cationic component, wherein the polymeric anionic component is derived from polyacrylic acid, poly(alkyl)acrylic acid, poly(maleic acid), poly(vinyl sulfonic acid), polyacrylate, or poly(alkyl)acrylate.

Independent claim 19 requires the ionic monomers that are polymerized into the polymeric anti-static salt to contain a phosphonium or ammonium cationic component. Such a limitation is not disclosed in the Noda reference nor is it disclosed in Abe. Independent claim 21 also requires

the polymeric anti-static salt to contain an ammonium or phosphonium cationic component which is not taught or suggested by Noda or Abe.

Accordingly, as Abe and Noda fail to teach or suggest the particular polymeric anti-static salts of claims 1, 17-18, and 20 or the method of making the polymeric anti-static salt of claim 19, reconsideration and removal of the rejections over these independent claims and their dependent claims are requested.

Claim Rejections Under 35 U.S.C. § 102

Claims 1-2, 4-5, and 9-23 stand rejected under 35 U.S.C. § 102, as allegedly anticipated by JP 2003-176405 to Takashi ("Takashi"). Applicants respectfully traverse the rejection.

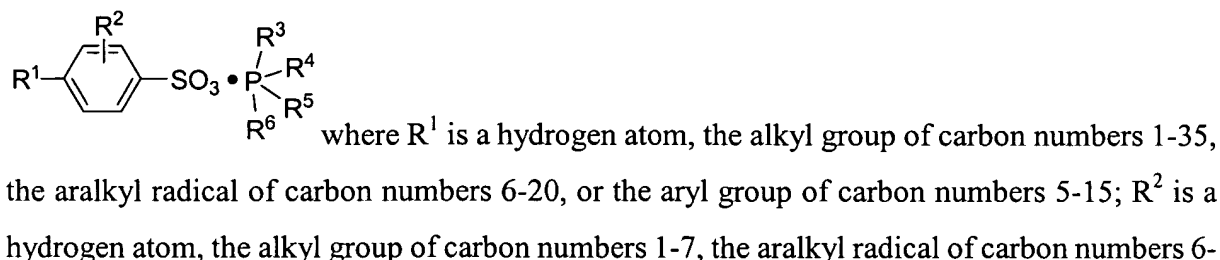
First, the Applicants wish to note that the Examiner failed to specify the particular section of 35 U.S.C. § 102 in her rejection. As Takashi published June 24, 2003, the Applicants will respond to the rejection as if it were under § 102(a).

The Examiner has stated

The reference discloses an antistatic polycarbonate resin composition.
 . . [a] benzenesulfonic acid phosphonium salt. . . and (C) perfluoro alkane
 sulfonic-acid metal salt. . . .

(Office Action, page 4)

Review of a computer translation of Takashi reveals that no polymeric anti-static salts are taught or suggested, let alone the particular polymeric anti-static salts of the instant claims. First, the benzenesulfonic acid phosphonium salt of Takashi is disclosed as meeting the following general structure:



20, or the aryl group of carbon numbers 5-15; R^3 , R^4 , R^5 , and R^6 are independently a hydrogen atom, the alkyl group of carbon numbers 1-24, the aralkyl radical of carbon numbers 7-20, or the aryl group of carbon numbers 6-15. (Takashi computer translation, Paragraphs [0023] to [0037]) Accordingly, none of Takashi's sulfonic acid phosphonium salts are polymeric.

Secondly, the perfluoro alkane sulfonic-acid metal salt of Takashi is not polymeric as it contains 1-12 carbon atoms for the alkane group. (Id at Paragraph [0041]) Examples of the perfluoro alkane sulfonic-acid metal salt include perfluoro butane sulfonic-acid potassium, perfluoro octane sulfonic-acid potassium, etc. (Id.) Accordingly, none of Takashi's perfluoro alkane sulfonic-acid metal salts are polymeric.

The instant claims are directed to compositions comprising a polymeric anti-static salt or a method of preparing such polymeric anti-static salts. As Takashi fails to teach or suggest all of the limitations of the present claims, the Applicants respectfully request reconsideration and withdrawal of the rejections to claims 1-2, 4-5, and 9-23.

It is believed that the foregoing remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

Form PTO-1449 filed May 11, 2005

It has come to the Applicants' attention that the Examiner has inadvertently forgotten to initial two entries in the Form PTO-1449 filed May 11, 2005. The Applicants respectfully request that the Examiner initial the form alongside U.S. 4,450,249 and U.S. 5,187,214 and indicate as such in the next action.

If there are any additional charges with respect to this Response or otherwise, please charge them to Deposit Account No. 07-0893.

Respectfully submitted,

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